California Regional Water Quality Control Board
Santa Ana Region

January 22, 2004

ITEM:

SUBJECT: AMENDMENT TO ORDER NO. R8-2003-0003, NPDES NO. CA8000402, WASTE DISCHARGE REQUIREMENTS FOR INLAND EMPIRE UTILITIES AGENCY, REGIONAL PLANT NO. 5, SAN BERNARDINO COUNTY - ORDER NO. R8-2004-0006

DISCUSSION:

On July 1, 2003, the Board adopted Order No. 03-3, NPDES No. CA8000402, governing the discharge of wastes from the Inland Empire Utilities Agency's (IEUA) Regional Plant No. 5. Order No. R8-2003-0003 requires the discharge of waste and use of recycled water from the facility to be a "filtered and subsequently disinfected wastewater". The order defines these terms with numeric performance standards for turbidity and coliform organisms. The order further defines these terms with process design standards such as filter overflow rates, chlorine dose vs. contact time ration, and modal contact time. Both the performance standards and process design standards are based on the "Water Recycling Criteria" contained in Chapter 3, Division 4, Title 22 of the California Code of Regulations, established by the California Department of Health Services.

Although IEUA can comply with process design standards the majority of the time, they may not be able to achieve consistent compliance during high influent flows to the facility, such as during storm events. During these periods, however, there will also be significant flow in the receiving water that would dilute the waste discharge.

Board staff has consulted with the California Department of Health Services (CDHS) regarding the applicability of the process design standards for discharges of waste to flowing streams. CDHS has determined that although compliance with these standards is necessary to protect public health when recycled water is used, compliance with these standards is not necessary to protect public health for discharges into waterbodies that provide dilution of the wastewater, provided the performance standards (turbidity and coliform) are consistently met.

The proposed order revises a footnote to this requirement (see footnote number 8) that states:

> "Filter rates, CT, and modal contact time requirements are applicable only to the use of recycled water and not to surface water discharges, provided the receiving water provides a 1:1 dilution."

All other conditions and requirements of Order No. 01-3 will remain unchanged.

RECOMMENDATION:

Adopt Order No. R8-2004-0006 as presented.

Comments were solicited from the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) - Doug Eberhardt
State Water Resources Control Board, Office of the Chief Counsel - Jorge Leon
State Water Resources Control Board, Division of Water Quality – Jim Maughan
State Department of Water Resources – Glendale
State Department of Health Services – Jeff Stone
State Department of Health Services – Richard Haberman
San Bernardino County Environmental Health Services - Mike Farrell
Orange County Coastkeeper - Garry Brown
Lawyers for Clean Water c/o San Francisco Baykeeper

California Regional Water Quality Control Board
Santa Ana Region

ORDER NO. R8-2004-0006

Amending Order No. R8-2003-0003, NPDES No. CA8000402
for
Inland Empire Utilities Agency
Regional Plant No. 5
San Bernardino County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter, Board), finds that:

1. On July 1, 2003, the Board adopted Order No. 03-3, NPDES No. CA8000402, governing the discharge of wastes from the Inland Empire Utilities Agency's (hereinafter discharger) Regional Plant No. 5.

2. Order No. R8-2003-0003 requires the discharge of waste and use of recycled water from the facility to be a "filtered and subsequently disinfected wastewater". The order defines these terms with numeric performance standards for turbidity and coliform organisms. The order further defines these terms with process design standards such as filter overflow rates, chlorine dose vs. contact time ration, and modal contact time. Both, the performance standards and process design standards, are based on the "Water Recycling Criteria" contained in Chapter 3, Division 4, Title 22 of the California Code of Regulations, established by the California Department of Health Services.

3. The Board has consulted with the California Department of Health Services (CDHS) regarding the applicability of the process design standards for discharges of waste to flowing streams. CDHS has determined that although compliance with these standards is necessary to protect public health when recycled water is used, compliance with these standards is not necessary to protect public health for discharges into waterbodies that provide dilution of the wastewater, provided the performance standards are consistently met.

4. Although the discharger can comply with process design standards the majority of the time, the discharger may not be able to achieve consistent compliance during high influent flows to the facility, such as during storm events. During these periods, there will also be significant flow in the receiving water.

5. Order No. R8-2003-0003 needs to be amended to relieve the discharger of complying with the process design standards during periods when the receiving water can provide dilution of the wastewater discharge.

6. In accordance with Water Code Section 13389, the amendment of Order No. R8-2003-0003, is exempt from those provisions of the California Environmental Quality Act contained in Chapter 3 (commencing with Section 21100), Division 13 of the Public Resources Code.

7. The Regional Board has notified the discharger and other interested agencies and persons of its intent to amend waste discharge requirements for the discharge and has provided them with an opportunity to submit their written views and recommendations.

8. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. R8-2003-0003 be amended as follows:

1. Discharge Specification A. 2 shall be replaced with the following:

    2. The discharge of wastewater or use of recycled water shall at all times be a filtered and subsequently disinfected wastewater that meets the following criteria:

        a. Filtered wastewater means an oxidized wastewater that meets either (1) or (2), below:

            (1) Has been coagulated and passed through natural undisturbed soils or a bed of filter media pursuant to the following:

                (a) At a rate that does not exceed 5 gallons per minute per square foot of surface area in mono, dual or mixed media gravity, upflow or pressure filtration systems, or does not exceed 2 gallons per minute per square foot of surface area in traveling bridge automatic backwash filters, based on peak dry weather design flow[8]; and

                (b) The turbidity of the filtered wastewater does not exceed any of the following:

                    i. An average of 2 Nephelometric Turbidity Unit (NTU) within a 24-hour period;

                    ii. 5 NTU more than 5 percent of the time within a 24-hour period; and

                    iii. 10 NTU at any time[9].

[8] Filter rates, CT, and modal contact time requirements are applicable only to the use of recycled water and not to surface water discharges, provided the receiving water provides a 1:1 dilution.

[9] See Section G.7., "Compliance Determination."

(2) Has been passed through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane so that the turbidity of the filtered wastewater does not exceed any of the following:

(a) 0.2 NTU more than 5 percent of the time within a 24-hour period; and

(b) 0.5 NTU at any time.

b. Disinfected tertiary wastewater shall mean a filtered wastewater that has been disinfected and meets the following criteria:

(1) The filtered wastewater has been disinfected by either:

(a) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes[8], based on peak dry weather design flow[10]; or

(b) A disinfection process that, when combined with the filtration process, demonstrates inactivation and/or removal of 99.999 percent of the plaque-forming units of F-specific bacteriophage MS-2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(2) The average weekly concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters. The average weekly concentration shall be evaluated using the median of the bacteriological results of the last seven days[11].

(3) The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any calendar month.

(4) The number of total coliform bacteria shall not exceed an MPN of 240 per 100 milliliters in any sample.

c. A coagulated wastewater shall be an oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated upstream from a filter by the addition of suitable floc-forming chemicals.

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[10] "Peak Dry Weather Flow" means the arithmetic mean of the maximum peak flow rates sustained over some period of time (for example three hours) during the maximum 24-hour dry weather period. Dry weather period is defined as period of little or no rainfall.

[11] See Section G.8., "Compliance Determination."

d. An oxidized wastewater shall be wastewater in which the organic matter has been stabilized, is non-putrescible, and contains dissolved oxygen.

2. All other conditions and requirements of Order No. R8-2003-0003 shall remain unchanged.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on January 22, 2004.

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Gerard J. Thibeault
Executive Officer